

# Endeavour Program

Faculty of Engineering and IT

# POSTER DESIGN



ACADEMIC SKILLS

# Session aims

To better understand how to design an effective poster in terms of:

- ✓ Your purpose and audience
- ✓ Content
- ✓ Layout
- ✓ Visuals
- ✓ Logistics

# Purpose

A poster can perform many functions

## **Your poster should be:**

### **A conversation starter**

Details are on your paper, in your head and in your notes

### **An advertisement**

Generate interest in your project so that your audience wants to learn more

### **A summary**

Provide a succinct summary of what your project achieves

# Purpose

Poster presentations are more flexible than traditional oral presentations

What are the main differences between oral presentations and poster presentations?

<b>Oral presentation</b>	<b>Poster</b>
Limited time	Audience selects what to view and how long
Brief question time to whole audience	Opportunity for extended questions and discussion 1:1
Contains more detail in all sections	Is reduced to essentials: detail can be provided when you present it

Adapt your vocabulary and pitch to suit your audience

***What are your three key audiences most interested in?***

- General public
- University staff and students
- Industry professionals

***How will you allow for this range of viewers?***

Select your content based on the needs of your audience

Ask yourself:

1. What is the **most useful/essential information** relating to our project?
2. What will my audience **most want to know**?
3. What is the **best medium** to present this information?
  - heading
  - text
  - graphic (chart, graph, image)
4. How can I show a **direct connection** between the text and the graphics?
5. How can I **reduce the amount of text** in order to maximise graphics/white space?



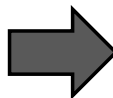
# Content

Carefully edit your text to maximise impact

To increase readability for a variety of audiences:

- ✓ Distill your ideas down to your core message (50 words or less for each section)
- ✓ Consider using bullet points
- ✓ Write in plain English

*Can you think of a simpler alternative*



With regard to	about



Use headings to help your audience to navigate the information on your poster

Some posters follow a research paper structure:

Introduction/Aims/Objectives

Methods

Results

Analysis/Discussion/Conclusions



***What are the advantages/disadvantages of this?***

Compare these two posters...

**How useful are the headings in these posters?**  
**How much can you learn in a few moments?**

A

## Can Suburban Greenways Provide High Quality Bird Habitat?

**Birds of Conservation Concern in Decline**


- Many bird species of conservation concern – including neotropical migrants, insectivores, and forest-interior specialists – decline with increasing human development
- Greenways might mitigate this effect
- Habitat patch size, vegetation composition & structure, and landscape context are key factors
- Standards are lacking for designing and managing suburban greenways as high quality habitat

**Objective: Greenways for the Birds**

- Determine how development-sensitive forest birds are affected by
  - forested corridor width
  - adjacent development intensity
  - vegetation composition & structure
- Develop recommendations for greenway designers and planners

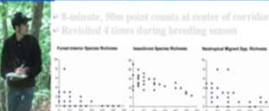
**Study Design & Independent Variables**

- Sampled 34 ~300m corridors in Raleigh & Cary, NC, USA
- Sampled range of
  - Forested corridor widths (20 – 1,200m)
  - Adjacent density (low density residential – office/commercial)
- Additional measures
  - Vegetation composition & structure in corridor
  - Land cover in 300m x 300m adjacent to corridor (contour)
- Measured richness & abundance of
  - Breeding birds
  - Neotropical migrant birds during stopovers
  - Mammal nest predators




**Breeding Birds of Concern More Common in Wider Greenways with Less Managed Area Surrounded by More Forest Canopy**

- 8-10 birds, this point counts at center of corridor
- Revisited 4 times during breeding season



**Nest Predators Less Common in Wider Greenways with Narrower Paths**

- Five baited nest stations along each greenway segment
- Observed for 5 nights each



**Greenways for Development-Sensitive Forest Birds Might Conflict with Intense Recreational Use**

**People & Managers Prefer ...**

- Wide corridors at least 50m wide, wider is better
- Don't split forested corridor
- Keep trails as narrow as possible
- Avoid wide grassy areas along trails within forested corridor
- Locate trails near the edge of forested corridors

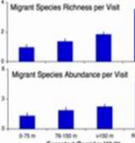
**Forest Birds Prefer ...**

- Forest patch width spanning forested corridor
- Discourages heavy human use
- Fewer nest predators

**Potential Solution: Wide Corridor, Trail Near Edge**

**Spring Neotropical Migrant Stopovers More Common in Wider Greenways with More, Taller Hardwood Trees**

- 200m x 25m transects along one side of greenway path
- Revisited sites for two spring seasons and one fall season
- Width not significant, but trend consistent with other findings



**Significant Predictors for Breeder Abundance**

Greenway: (-) Managed Area (+) Shrub Cover

Adjacent Landscape: (+) Canopy Cover (-) Building Density (-) Bare Earth

**Significant Predictors for Nest Predator Abundance**

Greenway: (-) Corridor width (+) Trail width (+) Mature forest (+) Ground cover (-) Vine cover


**Significant Predictors for Spring Migrant Abundance**

Greenway: (+) % Hardwoods (+) Canopy Height

Adjacent Landscape: (-) Bare Earth

B

## Comparing the Location and Morphology of Minke Whale Dorsal Fin Marks: Scotland and Iceland



(1) School of Ocean Sciences, University of Wales Bangor, Menai Bridge, LL57 2UW, Wales, UK (2) Cetacean Research & Rescue Unit, PO Box 11307, Banff AB45 3WB, Scotland, UK (3) Húsavík Whale Museum, Hafnarstett, PO Box 172, 640 Húsavík, Iceland

**1. Introduction**

Photo-identification is widely used as a tool for investigating the life history and behavioural ecology of cetaceans. Minke whales (*Balaenoptera acutorostrata*) have proven to be successful candidates for the use of photo-identification methods (Dorsey 1990, Gill 1994, Tapscott & Morin 2005, Bueangartner et al. 2007). In particular, marks occurring along the edge of the dorsal fin have proven useful in discriminating between individual whales. However, little is understood of the processes which lead to the formation of these marks. The following short pilot study was conducted to determine if the characteristics of these marks differed between geographic areas.

**2. Methods**

A comparative study was conducted on dorsal fin edge marks occurring between two geographically distinct populations of *B. acutorostrata* in the Moray Firth, northeast Scotland (n = 29) and Skjálfandi Bay, northeast Iceland (n = 28) (Figure 1). A dorsal fin layout system was used to test for significantly different proportions of marks occurring in the position (anterior, posterior, upper, lower, tip) and morphology (rounded, squared, triangular, indented, cut off) of the markings observed in each of the study areas (Figure 2 and Table 1).

**3. Results**

When mark categories between catalogues were compared and examined with Chi-Squared tests, a significant difference was found in the relative position of marks (Chi-sq = 10.373, df = 8, p = 0.035). However, no significant difference was observed in the frequencies of dorsal edge mark morphologies between the two regions (Chi-sq = 0.769, df = 8, p = 0.943).

**4. Discussion**

It is concluded from the results that the unique processes by which these different shaped marks occur may be the same between these two distinct areas. Processes which could potentially cause or promote DEMs include inter (predator) and intra (competition) specific interaction events, parasitic attachment and collision with vessels or debris. Therefore it is important to identify which of these processes create different DEM types – investigating the processes by which *B. acutorostrata* acquire markings can help to increase our understanding of their life history and any subsequent impacts that may affect them. Conducting comparative photo-identification studies of *B. acutorostrata*, between isolated studies, will also help to develop and standardise techniques used to investigate *B. acutorostrata* allowing for future, more detailed, comparative research.

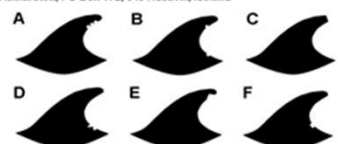
**5. References**

Bueangartner, S. J. & Springer, C. S. (2007) Identifying individual minke whales on the west coast of Iceland. Poster Presentation, 21<sup>st</sup> ICMC conference, San Sebastian, 2007.

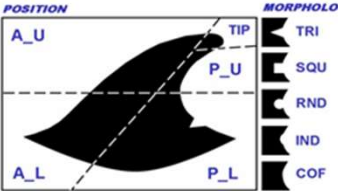
Dorsey, E. M. (1990) Minke whales (*Balaenoptera acutorostrata*) from the west coast of North America: Individual recognition and emigration via body flip of the International Whaling Commission Special Issue 12: 351-366.

Gill, A. (1994) The photo-identification of the minke whale (*Balaenoptera acutorostrata*) of the Sea of Mull, Scotland. MSc Thesis, University of Aberdeen, UK.

Tapscott, C. J. & Morin, P. (2005) Identifying a Majority of Minke Whales (*Balaenoptera acutorostrata*) at the St. Lawrence Based on the Presence of Dorsal Fin Edge Marks. Conference Proceedings, ICMC 2005 conference, La Rochelle, 2005.



**Figure 1.** Examples of dorsal fin silhouettes used to highlight the position and morphology of marks; A Ba\_CRRU\_14 B Ba\_CRRU\_06 C Ba\_CRRU\_09 D Ba\_DEM\_03 E Ba\_DEM\_05 F Ba\_DEM\_11



**Figure 2.** Diagram depicting classification fields to be used in organising and defining dorsal edge mark types for comparison between minke whale image catalogues. POSITION: Anterior Upper (A\_U), Anterior Lower (A\_L), Posterior Upper (P\_U), Posterior Lower (P\_L), Tip (TIP). MORPHOLOGY: Triangular (TRI), Squared (SQU), Rounded (RND), Indented (IND), Cut Off (COF).

**Table 1.** Tables showing the proportions of minke whale dorsal edge mark positions and morphologies between the two catalogues used in comparison (CRRU and HWM).

POSITION	A_U	A_L	P_U	P_L	TIP
CRRU	3.703	0.000	51.851	29.629	14.818
HWM	10.714	0.000	32.142	42.857	14.285

MORPHOLOGY	TRI	SQU	RND	IND	COF
CRRU	17.857	0.000	71.142	7.142	3.571
HWM	46.428	3.571	28.571	14.285	7.142

Use large, informative headings as much as possible

Informative headings will help you to:

- minimise text
- highlight key points

A. Methods

A

VS

B. Measuring Water Flow Around a Pier with Computer Fluid Dynamics

B





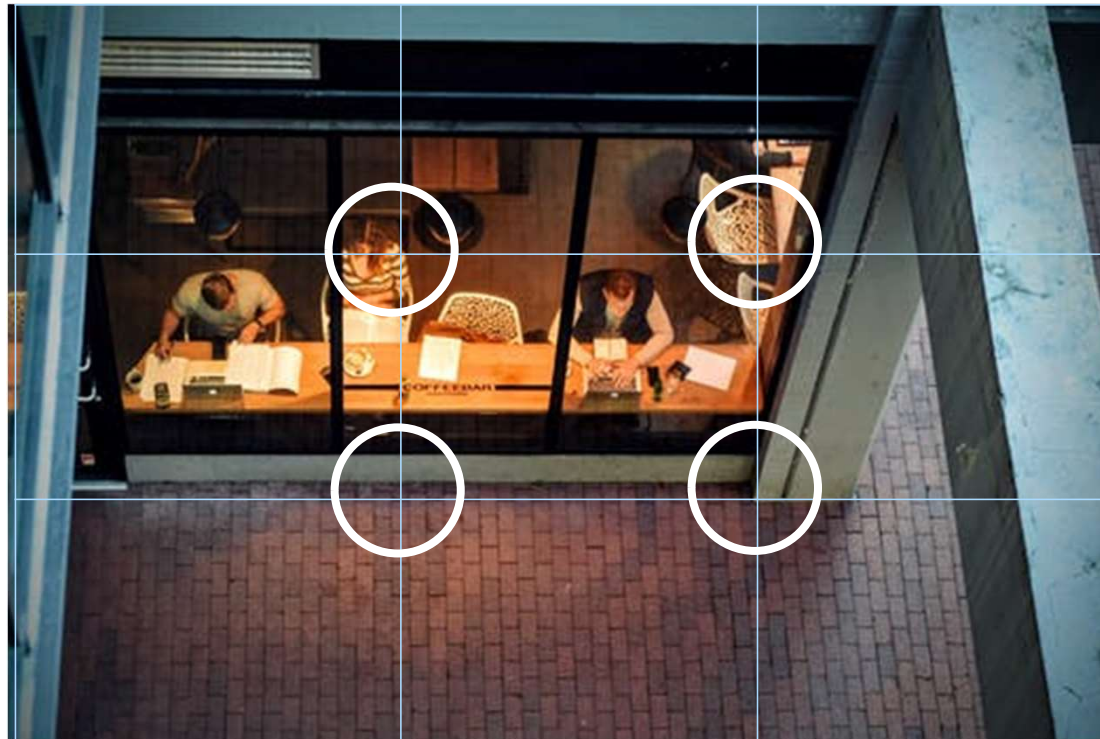
Use layout to help your audience to navigate the information on your poster

Top left

Top right

Bottom left

Bottom right

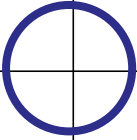
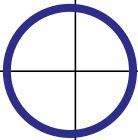
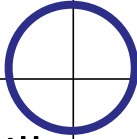
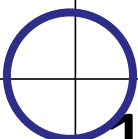


# Layout

Use layout to help your audience navigate the information on your poster

The layout of your poster should have clearly defined sections with a logical flow.

Eye tracking studies suggest the eye focuses most naturally where the lines intersect.

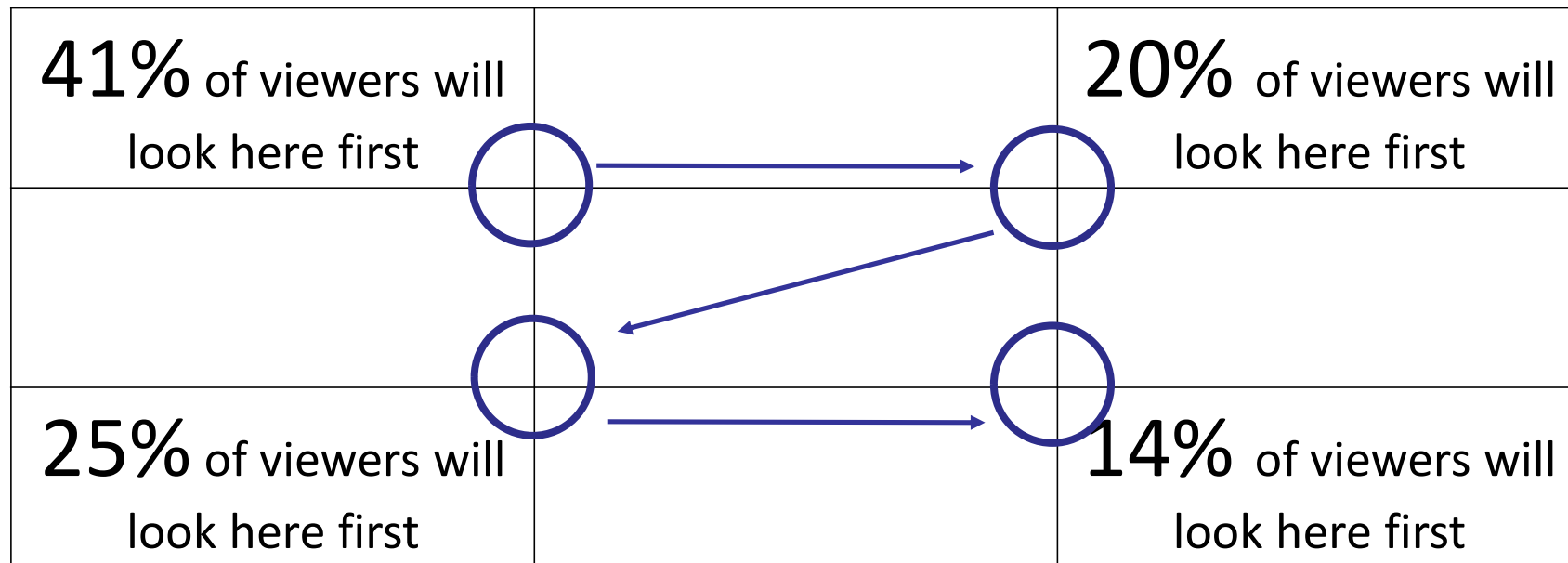
<b>41%</b> of viewers will look here first		<b>20%</b> of viewers will look here first	
<b>25%</b> of viewers will look here first		<b>14%</b> of viewers will look here first	

# Layout

Use layout to help your audience navigate the information on your poster

The layout of your poster should have clearly defined sections with a logical flow.

Audience comprehension is higher when content is laid out in a zig zag pattern.





# Layout

Consider where you position yourself and your materials in relation to your poster

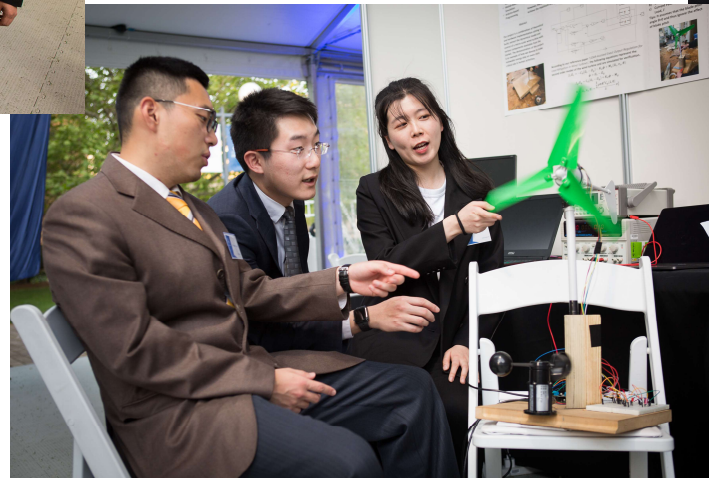
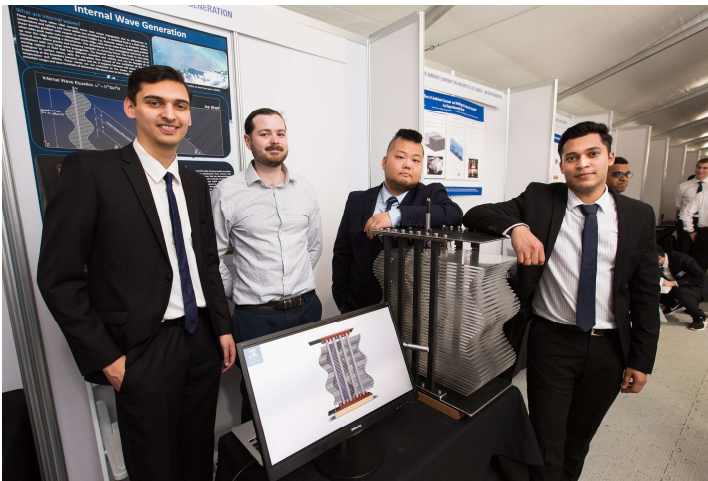


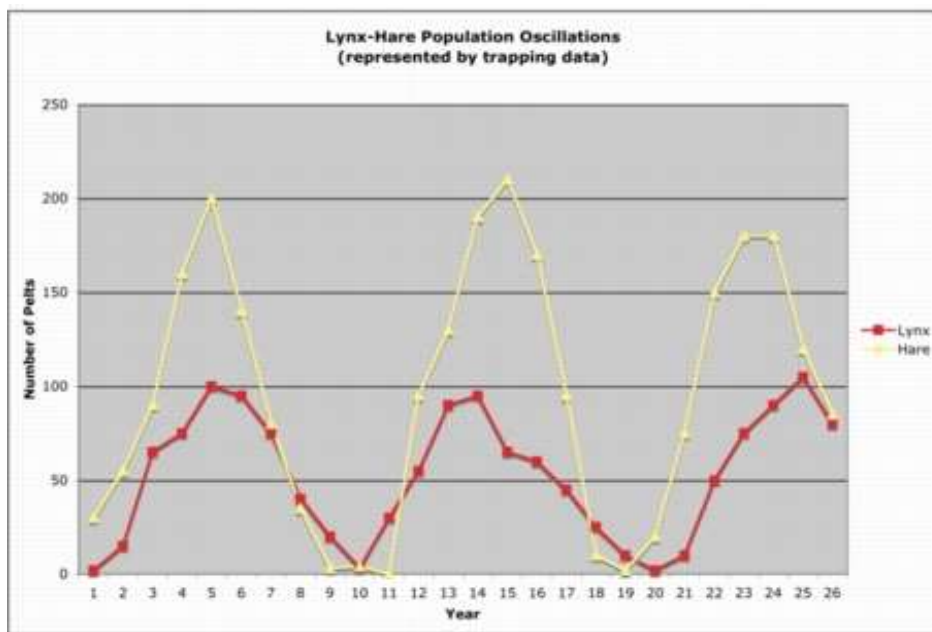
Photo credit: Peter Cassemento at the 2019 Endeavour



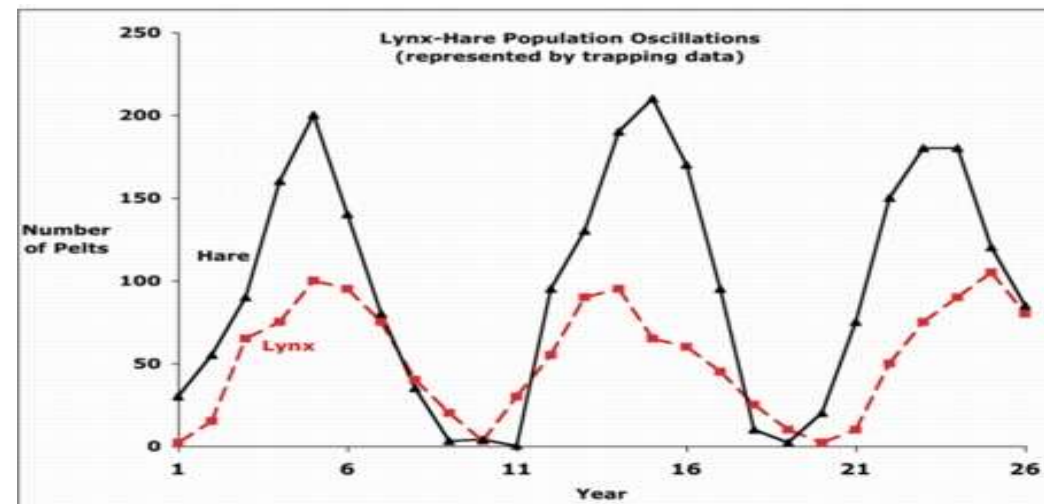
Consider these two graphs...

*Which graph is clearer? Why?*

A



B



Carefully select your font type and size to help your audience

*“No one ever complained  
that someone’s poster  
was too easy to read.”*

American Society for Cell Biology

<http://www.ascb.org/index.cfm?id=1607&navid=112&tcode=nws3&search=1>

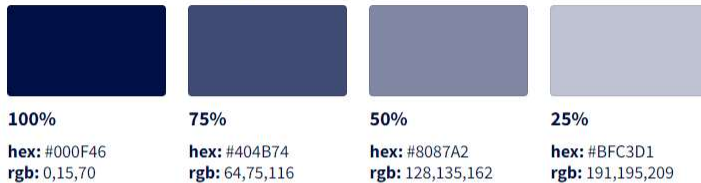
Carefully select your font type and size to help your audience

- ✓ Make your title readable from 5 metres away
- ✓ Use consistent text sizes for different heading levels
  - 80 - 90 point for titles
  - 30 - 36 point for headings
  - 18 - 24 point for text
- ✓ Put the names of all the authors and institutional affiliations just below (or next to) your title but with smaller font
- ✓ A serif font is more traditional (and less ambiguous)
- ✓ A sans-serif font is more modern (and cleaner); sans serif fonts (e.g. Arial) are less crowded ; also consider: verdana, tahma, century gothic, trebuchet, calibri, open sans (British Dyslexia Association, n.d.)

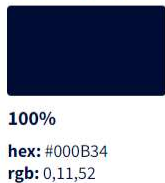
# Visuals

Carefully select and use a consistent colour and font scheme

## Traditional Heritage (Blue)



## Traditional Heritage Dark (Dark Blue)



## Default table

By default, tables that have no class applied to them and will appear like this.

	Heading 2	Heading 3
um dolor, sit amet ur adipiscing elit.	Lorem ipsum dolor, sit amet consectetur adipiscing elit.	Lorem ipsum consectetur a
um dolor, sit amet ur adipiscing elit.	Lorem ipsum dolor, sit amet consectetur adipiscing elit.	Lorem ipsum consectetur a
um dolor, sit amet ur adipiscing elit.	Lorem ipsum dolor, sit amet consectetur adipiscing elit.	Lorem ipsum consectetur a

## Level 0

Use the class `text-level-0` on any `element` containing `text`.

Lorem ipsum dolor sit  
amet consectetur  
adipiscing elit

```
<h4 class="text-level-0">  
  Lorem ipsum dolor sit amet consectetur adipiscing elit  
</h4>
```

## Level 1

Use the class `text-level-1` on any `element` containing `text`.

Lorem ipsum dolor sit amet  
consectetur adipiscing elit

```
<h4 class="text-level-1">  
  Lorem ipsum dolor sit amet consectetur adipiscing elit  
</h4>
```

## Websites to help:

<https://colors.co/>  
<https://color.adobe.com/create/color-wheel/>  
<https://paletton.com/>

<https://fonts.google.com/>  
<https://designmodo.com/best-fonts-2018/>

# Layout and visuals



Consider these two posters...

What do you like?

rdi learning without boundaries

## GOINGGLOBAL

Structuring for learner success through Specialization, Assessment, and Action Analytics

### COULD EVERY LEARNER'S POTENTIAL BE MAXIMIZED?

Capella Education Company seeks to maximize learner success by bringing together Capella University's award-winning learning outcomes model with Resource Development International's (RDI) global operations.

RDI is the world's largest independent provider of UK University qualifications by distance learning and comprises an international group of companies with its headquarters in Coventry, UK.

Capella University was the inspiration of Stephen Skellin, former CEO of Tesco Corporation, who felt that many adults were underserved by traditional universities. He envisioned a high-quality university that people could attend from any location.

#### Specialization

Any educational program to complete, especially those operating globally. Creating programs involves determining future workforce needs, articulating comprehensive curriculum, meeting local regulatory requirements, tailoring instructional strategies, producing media content, and designing assessments. At Capella University, subject matter experts and faculty work with curriculum specialists, course developers, editors, and assessment specialists to establish and sustain alignment of every word along mature learning processes. Similarly, delivering programs involves the coordinated actions of many roles. At RDI, student support coordinators collaborate with tutors, program advisors, and learners to maximize each learner's opportunity for success. Overall, we have found it essential to diversify educational processes to ensure we have the right talent for the right job.

#### WHAT IF A UNIVERSITY WAS BUILT AROUND LEARNER SUCCESS?

DEFINE	DESIGN	DEVELOP	ASSESS
<ul style="list-style-type: none"> <li>CURRICULUM SPECIALIST</li> <li>SUBJECT MATTER EXPERT</li> <li>FACULTY CHAIR</li> <li>MARKET LEADER</li> </ul>	<ul style="list-style-type: none"> <li>CURRICULUM SPECIALIST</li> <li>SUBJECT MATTER EXPERT</li> <li>FACULTY CHAIR</li> <li>INSTRUCTIONAL DESIGNER</li> <li>PROJECT MANAGER</li> <li>ASSESSMENT SPECIALIST</li> </ul>	<ul style="list-style-type: none"> <li>SUBJECT MATTER EXPERT</li> <li>FACULTY CHAIR</li> <li>PROJECT MANAGER</li> <li>EDITOR</li> <li>COURSE PRODUCER</li> </ul>	<ul style="list-style-type: none"> <li>CURRICULUM SPECIALIST</li> <li>INSTRUCTIONAL DESIGNER</li> <li>QUALITY ANALYST</li> <li>INSTRUCTOR</li> <li>DEAN, ASSOCIATE DEANS, &amp; FACULTY CHAIRS</li> </ul>

#### Assessment

Adult learners depend increasingly on educational programs to prepare them for success in their careers. We too often measure success by educational experience as a series of disconnected courses with specific but arbitrary requirements. Effective programs integrate curricular goals across instructional and assessment practices, so that learners increasingly gain a deeper recognition of their personal strengths and professional opportunities.

All Capella, learning outcomes and aligned competencies guide the design of programs, courses, assignments, and scoring guides. In faculty grade assignments using aligned scoring guides rubrics, their often referenced judgments align a comprehensive model of student competencies and eventual outcome demonstration. This feedback helps learners develop a "line of sight" to learning outcomes that establishes a positive and complementary relationship between their own performance goals and longer-term mastery goals resulting in more motivation to persist and complete each program.

#### WHAT IF EVERY ASSESSMENT INFORMED AND HELPED GUIDE INSTRUCTORS?

CRITERIA	NON-PERFORMANCE	BASIC	PROFICIENT	DISTINGUISHED
SCORING GUIDE TOOL				

#### Action Analytics

Action analytics organizes large data sets using empirical models to describe current learning demonstration status, predict future outcomes, and inspire actions to optimize performance. Distance education programs generate tremendous amounts of transactional data on the behavior of learners and instructors, such as the data through which a course. Aggregated and analyzed, these data can reveal significant patterns that are critical to optimizing delivery, such as critical patterns of engagement, dwell time for key course pages, and sequences of social interactions.

#### WHAT IF INSTRUCTION WAS TAILORED AS WELL AS AMAZON OR NETFLIX RECOMMENDATIONS?

BY ASSIGNMENTS	COURSE COORDINATORS	PROGRAM OUTCOMES
<ul style="list-style-type: none"> <li>UNIT 1</li> <li>UNIT 2</li> <li>UNIT 3</li> <li>UNIT 4</li> <li>UNIT 5</li> </ul>	<ul style="list-style-type: none"> <li>1. Apply foundational knowledge and skills to solve problems</li> <li>2. Analyze complex situations and make sound decisions</li> <li>3. Evaluate and synthesize information to solve problems</li> <li>4. Apply advanced knowledge and skills to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>1. Apply foundational knowledge and skills to solve problems</li> <li>2. Analyze complex situations and make sound decisions</li> <li>3. Evaluate and synthesize information to solve problems</li> <li>4. Apply advanced knowledge and skills to solve problems</li> </ul>

#### CONTACT

Capella: www.capella.edu | RDI: www.rdi.co.uk

## On The Up: Voluntary Sector Wages in the UK 1998-2007

Alasdair Rutherford

### What effect has the big expansion of the UK voluntary sector workforce in the past ten years had on wages in the sector?

**A Growing Sector**  
Since 1997 the government in the UK has promoted the involvement of the independent non-profit sector in the provision of public services.  
As a result, the voluntary sector has grown dramatically while the increasing use of commissioning and competitive tendering has exerted market forces on the sector from which it had previously enjoyed some shelter.  
The UK voluntary sector workforce has grown from 482,000 employees in 1998 to 612,000 employees in 2005. This is an increase of 26% in ten years (Private 19%, Public 34%).  
The value of government contracts with the UK voluntary sector increased from around £2 billion in 1996/97 to 16.68 billion in 2005/06.

**What is the Voluntary Sector?**

- Non-distribution of profits constraint
- Public benefit purposes
- Independent.

**The Voluntary Sector Labour Market**

Blum-McEwen Theory  
The most comprehensive model is Besley & Ghatak's (2005) Motivated Agent model.  
Motivated through Altruism and Agency costs, and the model predicts lower wages in mission motivated organisations as warm-glow utility forms part of the agent's compensation.

**Empirical Literature**

- Weisbrod (1983) found a nonprofit wage discount of 20%.
- Pfeffer (1985) found a nonprofit sector wage discount of 19%.
- Levine (2005) found some differences in the industry level.
- Rubin and Borokov (2005) found no sig. diff. in panel data.

**Estimating the Model**

Using UK Labor Force Survey data 1988 to 2007 to estimate Mincer Wage Equations.  
The interaction of sector and year variables estimates the sector wage difference from the year.

**Tackling Unobserved Heterogeneity**  
Government policy since 1997 has provided an exogenous shock that has increased the size of the sector.  
The panel element of the LFS is used to estimate a Fixed Effects model.

Alasdair Rutherford  
ar3@stir.ac.uk  
arutherford@stir.ac.uk

**Model 1: Pooled Cross-Section**

Estimated Wage Differentials by Sector: Male

Estimated Wage Differentials by Sector: Female

**Model 2: Panel Fixed Effects**

Estimated FE Wage Differentials by Sector: Male

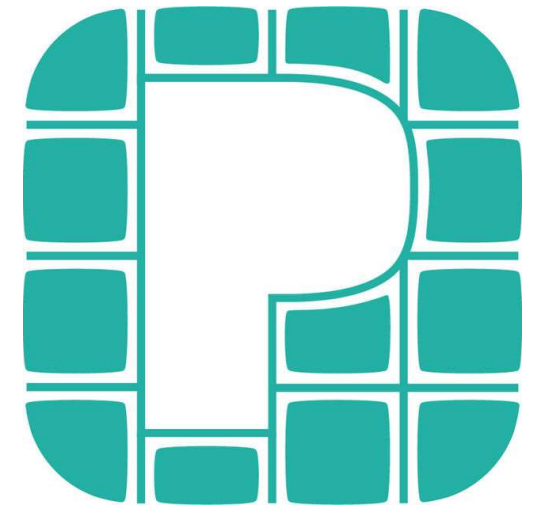
Estimated FE Wage Differentials by Sector: Female

**Discussion**  
Voluntary sector wages are significantly lower for male workers, less clear for female workers.  
Lower voluntary sector wages for both male and females in 1998, but wages in the sector have grown faster over the past ten years than the other two sectors.  
This reduces the average level of warm-glow in the sector. If this reduces incentives to contribute and the resulting earnings incentives, then this is an issue. An unintended consequence of the policy to promote and expand services could be an undermining of the sector's main advantage.

What would you improve?

# Logistics

Let the technology work *for* you



# Logistics

Prepare your poster in advance

Size = **A0** (84.1cm x 118.9cm) **portrait**

File name = **Booth Number\_Project Name\_Poster\_Date**

Format = **PDF**

Include: **project title, project code, all team member names, supervisor's name, discipline**

Logos: **Do not use the University of Melbourne logo; gain permission before using any industry logos**

***Submit by Monday 6<sup>th</sup> May***

# Summary

Consider these elements when designing your poster:

- ✓ Your purpose and audience
- ✓ Content
- ✓ Layout
- ✓ Visuals
- ✓ Logistics



Endeavour Program  
Faculty of Engineering and IT

# POSTER DESIGN



ACADEMIC SKILLS